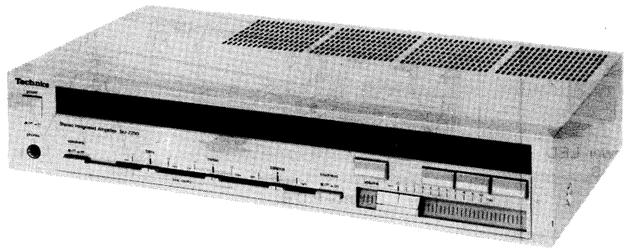
ORDER NO. HAD85012401C8

Service Manual

Stereo Integrated Amplifier

Amplifier

SU-Z250



Color

(S) · · · · Silver Type
(K) · · · · Black Type

Color	Area
(K) (S)	[E] · · · · · Switzerland and Scandinavia
(K) (S)	[EK] · · · · United Kingdom
(K) (S)	[EF] · · · · France
(K) (S)	[EH] · · · · Holland
(K) (S)	[EB] · · · · Belgium
(K) (S)	[Ei] · · · · · Italy
(K) (S)	[XL] · · · · Australia
(K) (S)	[XA] · · · · Asia, Latin America, Africa, Middle Near East and Oceania

SPECIFICATIONS

(DIN 45 500)

■ AMPLIFIER SECTION

40 Hz~20 kHz continuous power output	
both channels driven	2 × 30W (8Ω)
1 kHz continuous power output	
both channels driven	2 × 40 W (8Ω)
Total harmonic distortion	
rated power at 40 Hz~20 kHz	0.05% (8Ω)
half power at 1 kHz	0.02% (8Ω)
Intermodulation distortion	
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.05%
Power bandwidth	
both channels driven, −3 dB	10 Hz~25 kHz (8Ω)
Damping factor	40 (8Ω)
Input sensitivity and impedance	
PHONO	2.5 mV/47kΩ
TUNER, CD/AUX	150 mV/22kΩ
TAPE/EXT	150 mV/22kΩ
PHONO maximum input voltage (1 kHz, RMS)	150 mV
S/N	
rated power (8Ω)	
PHONO	72 dB (IHF, A: 72 dB)
TUNER, CD/AUX, TAPE/EXT	86 dB (IHF, A: 95 dB)
Frequency response	
PHONO	RIAA standard curve ±0.8 dB (30 Hz~15 kHz)
TUNER, CD/AUX, TAPE/EXT	5 Hz~80 kHz (−3 dB)
Tone controls	
BASS	50 Hz, +10 dB~ −10 dB
TREBLE	20 kHz, +10 dB~ −10 dB
Loudness control (volume at −30 dB)	50 Hz, +9 dB
Output voltage and impedance	
REC OUT	150 mV
Channel balance, CD/AUX 250 Hz~6,300 Hz	±1 dB
Channel separation, CD/AUX 1 kHz	55 dB
Headphones output level and impedance	470 mV/330Ω
Load impedance	4Ω~16Ω

■ GENERAL

Power consumption	190W
Power supply	
For Australia and United kingdom	AC 50 Hz/60 Hz, 240V
For continental Europe	AC 50 Hz/60 Hz, 220V
For others	AC 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensions (W×H×D)	430 × 86 × 240 mm (16-30/32" × 3-3/8" × 9-7/16")
Weight	4.3 kg (9.5 lb.)

Note:
Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

Specifications are subject to change without notice for further improvement.

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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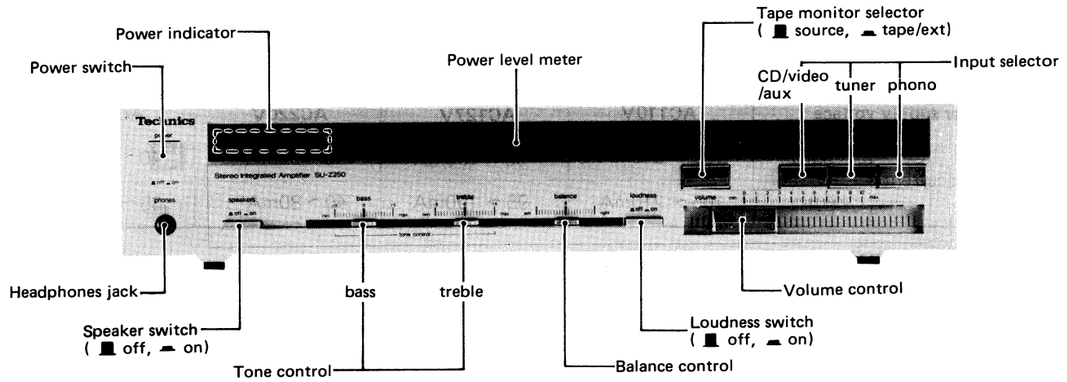
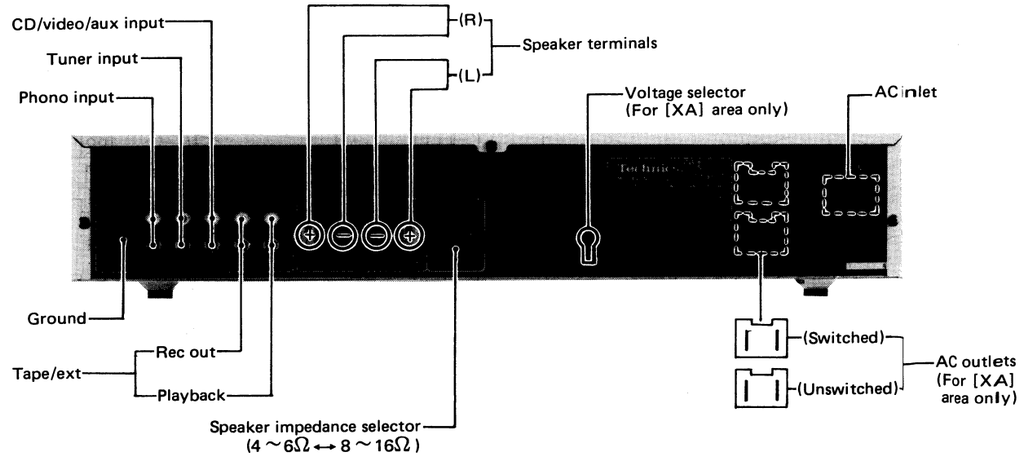
■ LOCATION OF CONTROLS





- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and replacement parts list.

* [XA] area is provided with voltage selector and AC outlets.
* 240V (50/60Hz) for Australia and United Kingdom.
* 220V (50/60Hz) for Continental Europe.
* 110V/127V/220V/240V (50/60Hz) for other [XA] area.
* Phono input capacitance is about 150pF.

■ PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlined below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again.

Note:
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

■ BEFORE REPAIR AND ADJUSTMENT

1. Turn off the power, Discharge both power supply capacitors (C603, C604, 4700μF) through a 10 ohm, 5W resistor to ground. Do not short between C603 and C604. It may damage the capacitors.
2. After completion of repair, slowly apply the primary voltage by using a variac to avoid over current. Current consumption at 60Hz/50Hz in no signal mode should by shown below with respect to supply voltage 110V/127V/ 220V/ 240V.

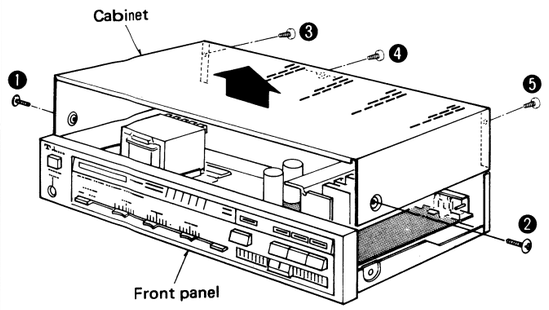
Power supply voltage		AC110V	AC127V	AC220V	AC240V
Consumed current	50Hz	105 ~ 210mA	95 ~ 190mA	45 ~ 90mA	40 ~ 80mA
	60Hz	105 ~ 210mA	95 ~ 190mA	40 ~ 80mA	35 ~ 70mA

■ DISASSEMBLY INSTRUCTIONS

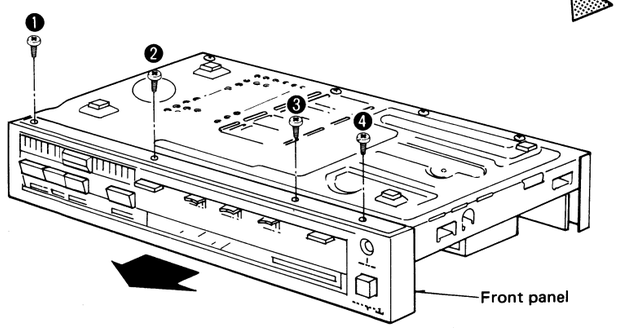
Ref. No. 1 — How to remove the cabinet

Procedure 1

- Remove the 5 screws. (❶ ~ ❺)



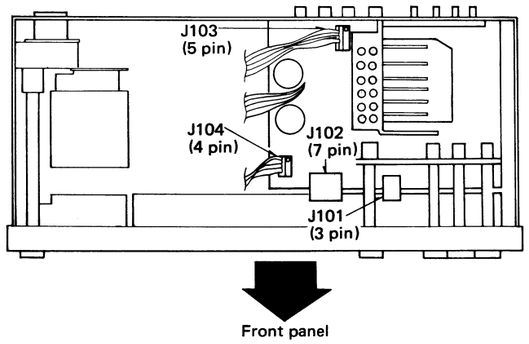
- Remove the 4 screws. (❶ ~ ❹)



Ref. No. 2 — How to remove the front panel

Procedure 1 → 2

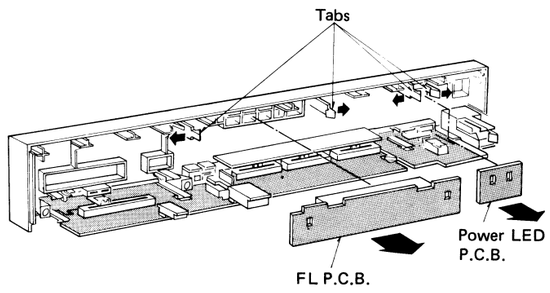
- Remove the 4 connector (J101 ~ J104)



Ref. No. 3 — How to remove the FL and Power LED P.C.B.

Procedure 1 → 2 → 3

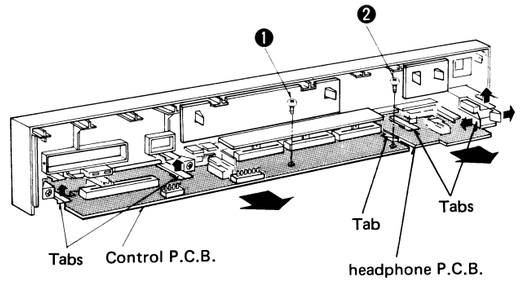
- Push the 4 tabs aside.



Ref. No. 4 — How to remove the control and headphone P.C.B.

Procedure 1 → 2 → 4

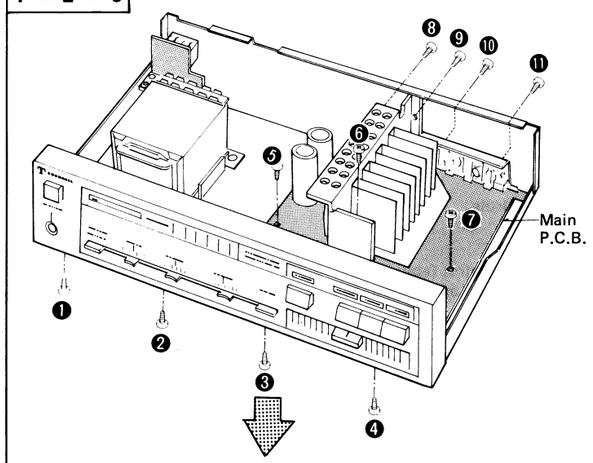
- Remove the 2 screws. (❶ , ❷)
- Push the 3 tabs aside of control P.C.B.
- Push the 4 tabs aside of headphone P.C.B.



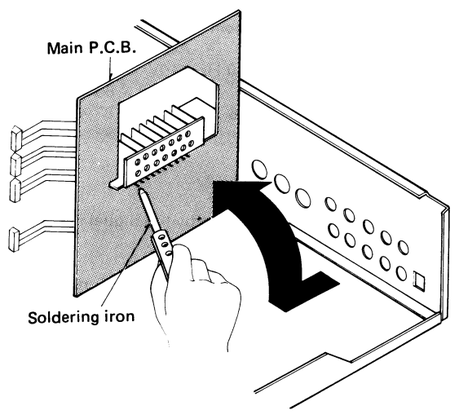
Ref. No. 6 — How to change the power IC

Procedure 1 → 2 → 6

- Remove the 11 screws. (❶ ~ ⓫)



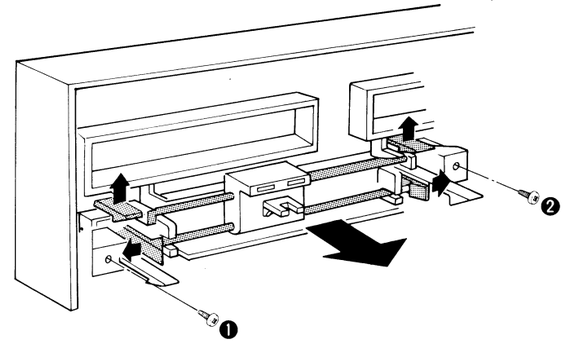
- Unsolder the power IC.



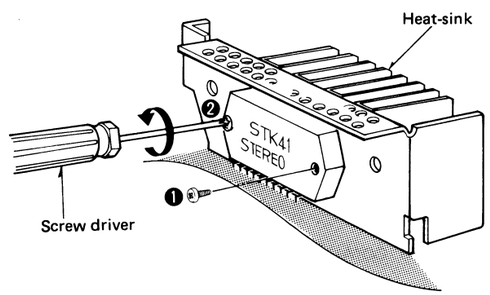
Ref. No. 5 — How to remove the volume knob

Procedure 1 → 2 → 4 → 5

- Remove the 2 screws. (❶ , ❷)
- Push the 4 tabs aside.



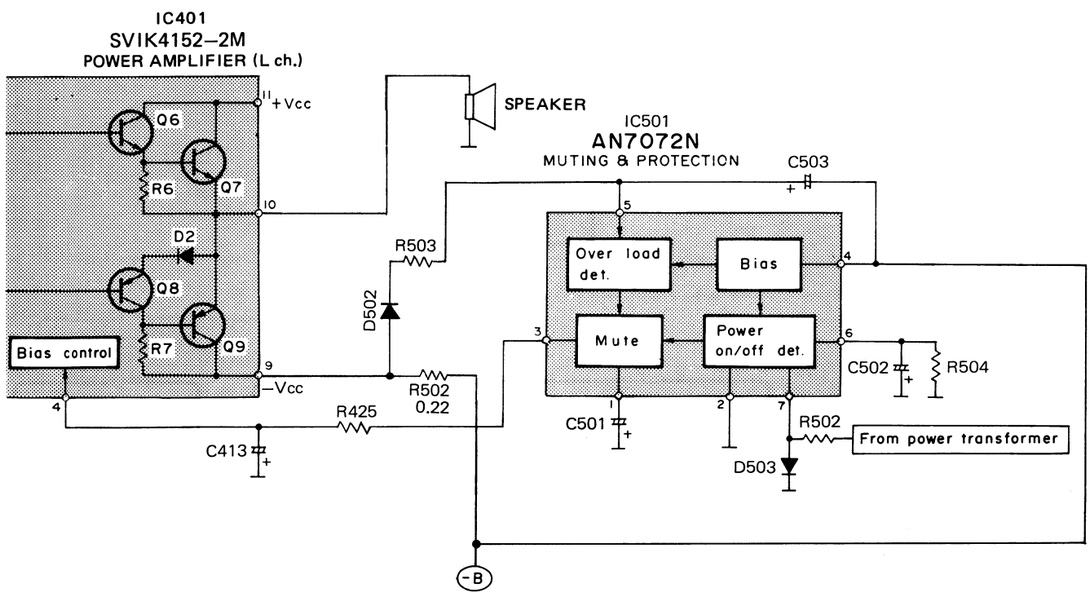
- Remove the 2 screws. (❶ , ❷)



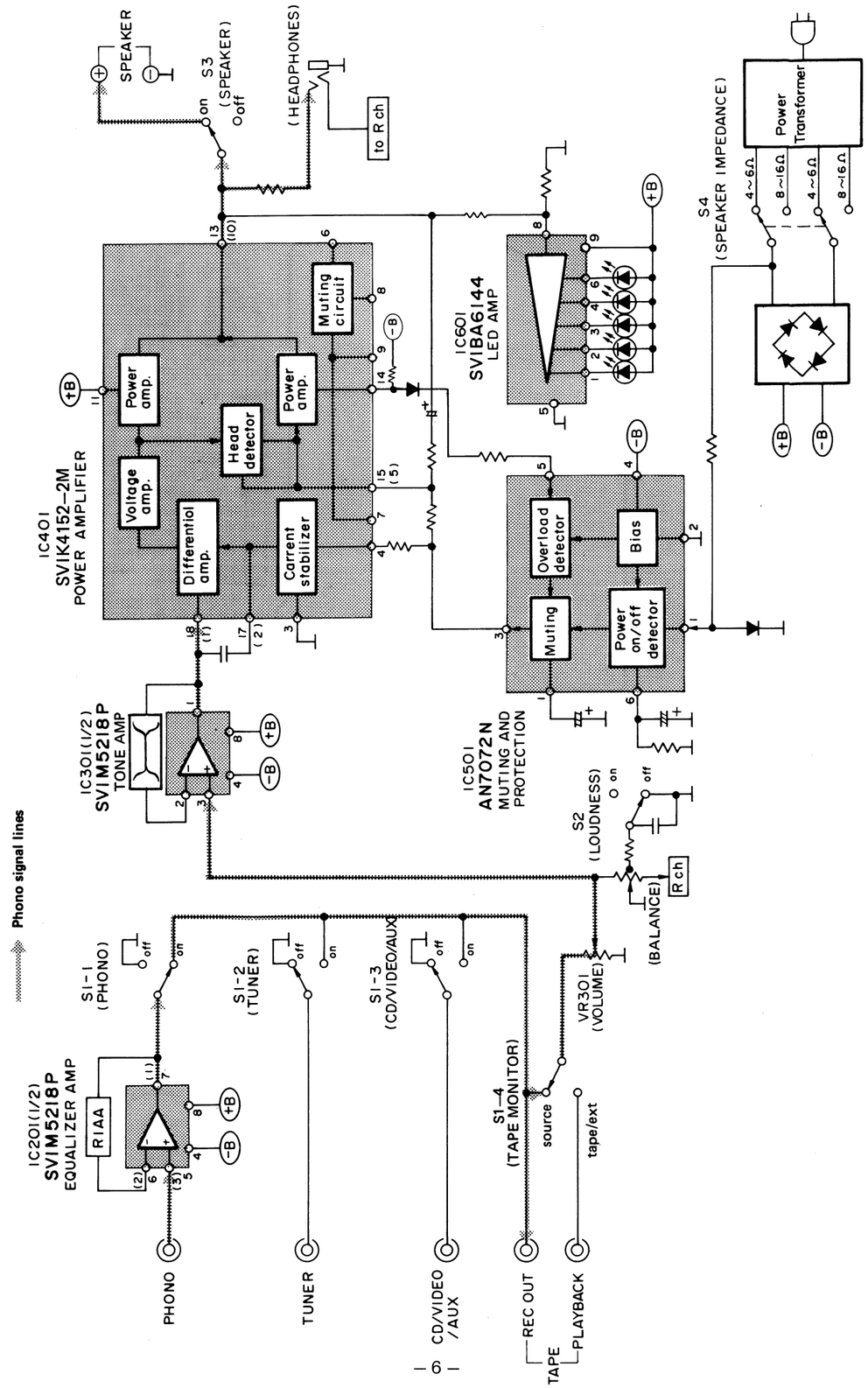
When mounting the power IC, apply heat-sink conpound (SZZ0L15) to the rear of the power IC.

■ OPERATIONAL DESCRIPTION OF IC501 FOR MUTING

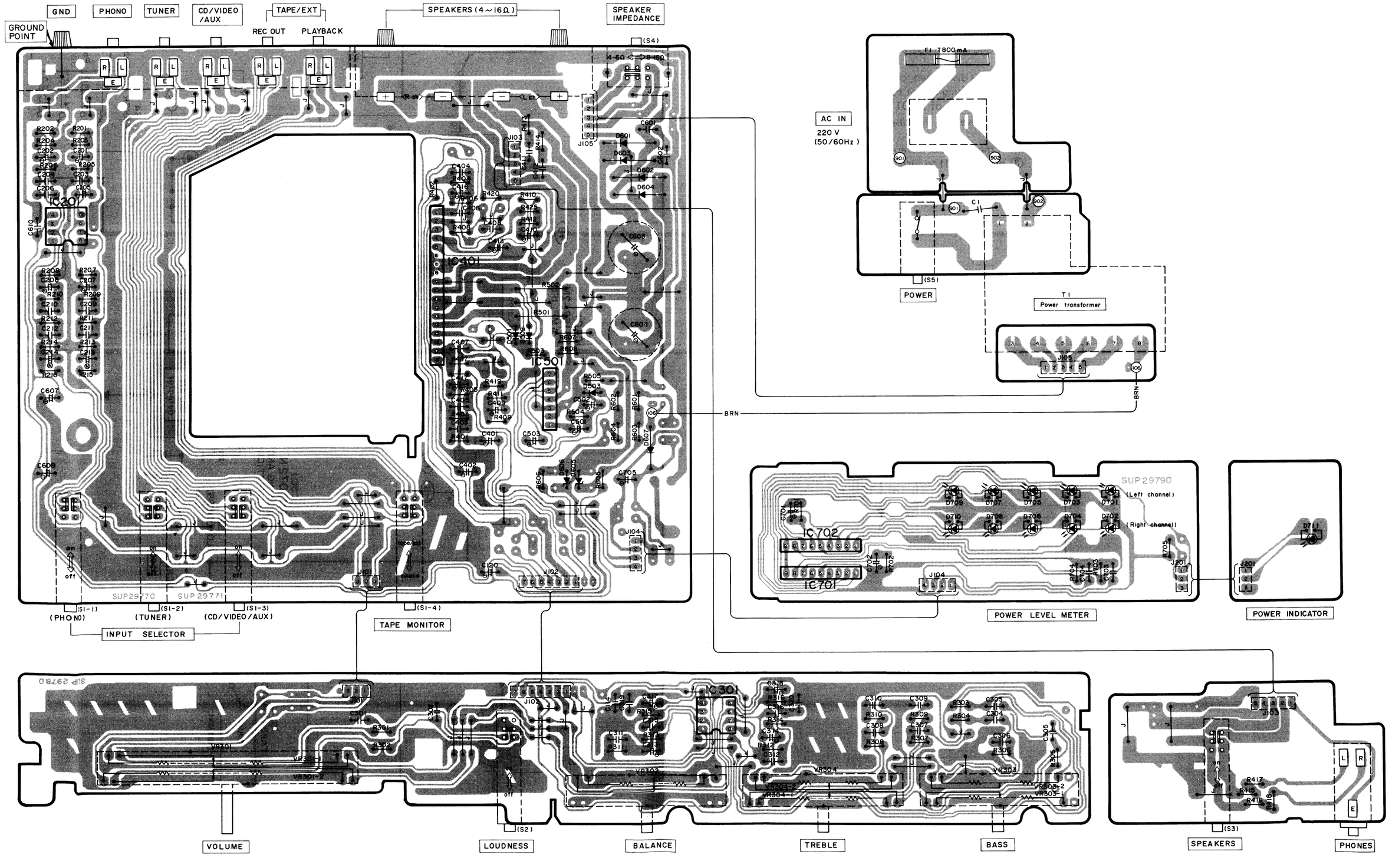
1. Muting operation with power ON.
   With power turned ON, DC voltage is applied to terminal ⑦ of IC501. Then capacitor C501 connected to terminal ① is charged, and the voltage of terminal ① gradually rises. When the voltage reaches about −4.5V (about 5 sec. after power ON), the muting circuit turns off, and then −37.6V is generated at terminal ③ . The voltage of terminal ③ is supplied to the power amplifier of IC401, then operating power IC.
2. Muting operation with power OFF.
   With power turned OFF, capacitor C501 connected to terminal ① is discharged, causing the voltage of C501 to drop, and then the muting circuit in IC turns ON. With the muting circuit turned ON, the voltage of terminal ③ becomes 0V, and then power supply to the power amplifier of IC401 is discontinued.
3. Speaker terminals are short-circuited while hearing at a high output level. In this case, a large current flows to the power supply line applied to No. ⑨ terminal of IC401.
   Then, voltages are generated at the terminals of R502, and when the potential difference exceeds 1.5V, the voltage applied to No. ⑤ pin of IC501 drops , causing No. ③ pin of IC501 to turn ON.
   So, stop the operation of power amplifier to cut off the output.
   (Note: When the output level is low, short-circuiting the output does not cause operation.)

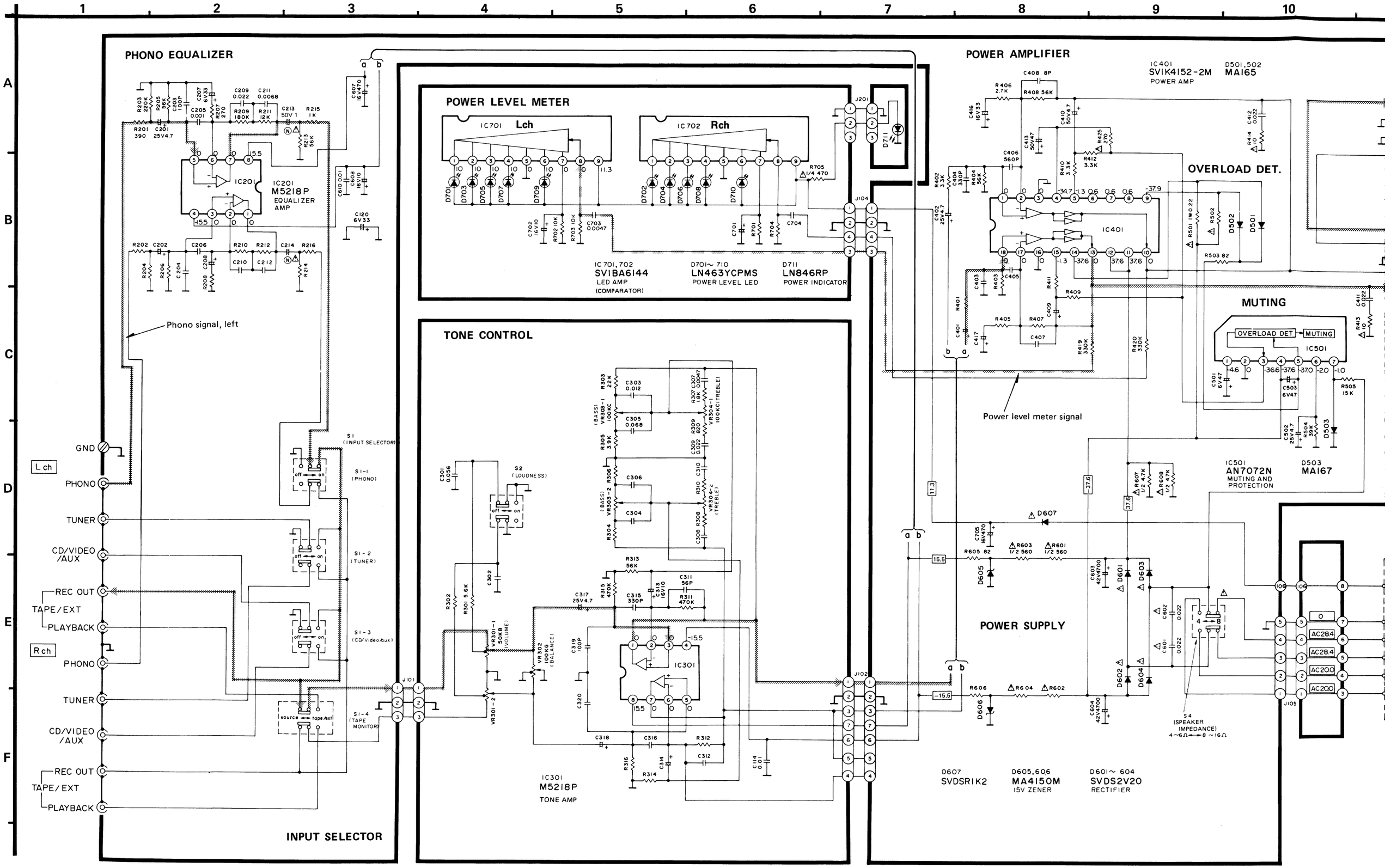


■ BLOCK DIAGRAM



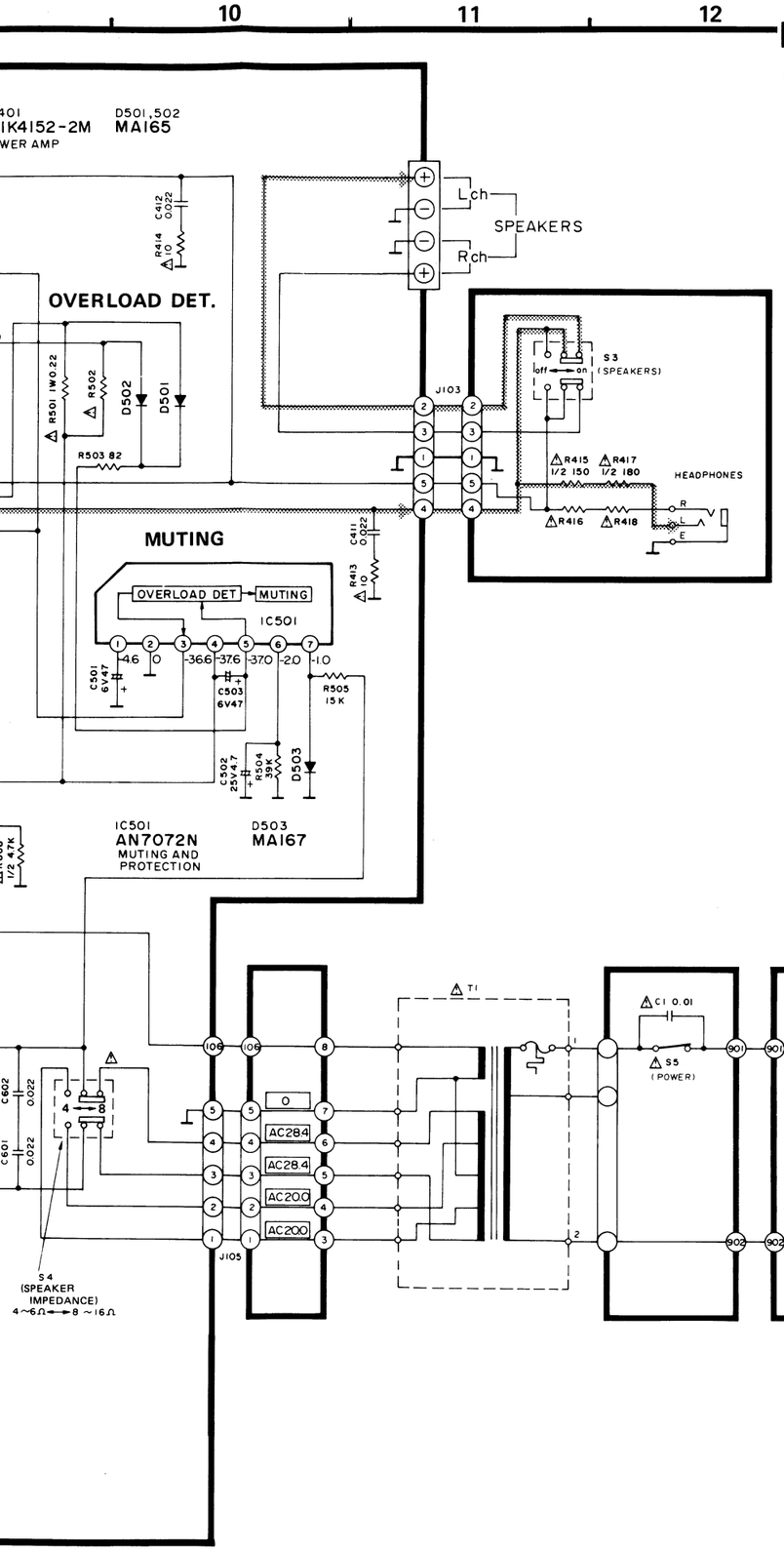
■ PRINTED CIRCUIT BOARDS




PHONO EQUALIZER
IC201
M5218P
EQUALIZER AMP
Phono signal, left
GND
L ch
PHONO
TUNER
CD/VIDEO /AUX
REC OUT
TAPE/EXT
PLAYBACK
R ch
PHONO
TUNER
CD/VIDEO /AUX
REC OUT
TAPE/EXT
PLAYBACK
S1 (INPUT SELECTOR)
S1-1 (PHONO)
S1-2 (TUNER)
S1-3 (CD/Video/aux)
S1-4 (TAPE MONITOR)
INPUT SELECTOR
POWER LEVEL METER
IC701 Lch
IC702 Rch
IC701,702
SVIBA6144
LED AMP
(COMPARATOR)
D701~710
LN463YCPMS
POWER LEVEL LED
D711
LN846RP
POWER INDICATOR
TONE CONTROL
S2 (LOUDNESS)
IC301
M5218P
TONE AMP
POWER AMPLIFIER
IC401
SVIK4152-2M
POWER AMP
D501,502
MA165
OVERLOAD DET.
MUTING
IC501
AN7072N
MUTING AND PROTECTION
D503
MA167
Power level meter signal
POWER SUPPLY
S4 (SPEAKER IMPEDANCE)
4~6Ω ⟷ 8~16Ω
AC284
AC284
AC200
AC200
D607
SVDSR1K2
D605,606
MA4150M
15V ZENER
D601~604
SVDS2V20
RECTIFIER

■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

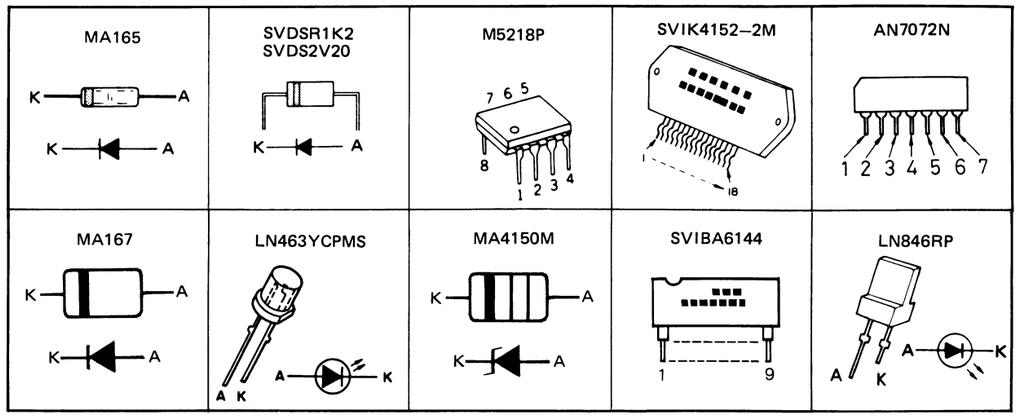


Area	Power source
Continental Europe	AC220V (50/60Hz)
United Kingdom & Australia	AC240V (50/60Hz)

Notes:

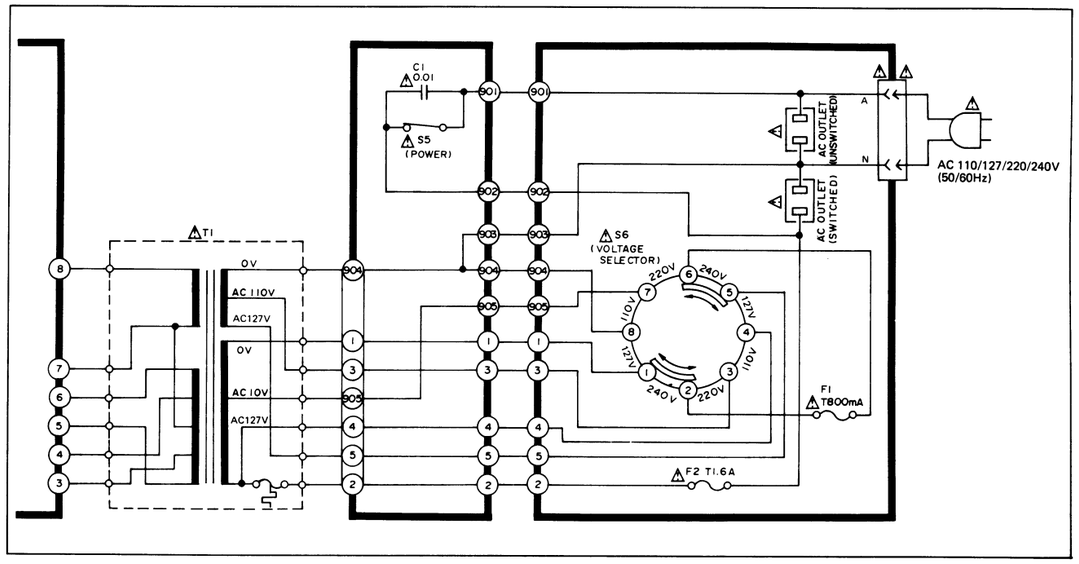
1. **S1-1 ~ S1-3** : Input selector switch in **"Phono"** position. Phono ↔ tuner ↔ CD/video/aux
2. **S1-4** : Tape monitor switch in **"source"** position. (▮ source, ▰ tape/ext)
3. **S2** : Lodness switch in **"off"** position.
4. **S3** : Speaker switch in **"on"** position.
5. **S4** : Speaker impedance switch in **"8 ~ 16Ω"** position. (8 ~ 16Ω ↔ 4 ~ 6Ω)
6. **S5** : Power switch in **"on"** position.
7. **S7 [XA] only** : Voltage selector switch in **"240V"** position. 110V ↔ 127V ↔ 240V ↔ 220V
8. Important safety notice: Components identified by ⚠ mark have special,characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
9. Indicated voltage values are the standard values for the DC electronic circuit tester (high-impedance) with the ground point taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
10. Phono signal line (L ch.)
11. Power level meter signal line (L ch.)
12. Positive and negative voltage lines. (When speaker impedance selector switch at 8 ~ 16Ω)

■ TERMINAL GUIDE OF TRANSISTORS, DIODES AND IC'S



■ CIRCUIT TO BE CHANGED AND THE AREA

- **Power source circuit for [XA] area.**



■ RESISTORS & CAPACITORS

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
3. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
4. The "Ⓢ" mark is service standard parts and may differ from production parts.
5. The unit of resistance is OHM (Ω). K = 1000Ω, M = 1000kΩ
6. The unit of capacitance is MICROFARAD (μF). P = 10^{-6}μF

Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value

Resistor Type	Wattage	Tolerance
ERD : Carbon ERX : Metal film	25 : 1/4W S1 : 1/2W S2 : 1/4W 1A : 1W	J : ±5% K : ±10%

Numbering System of Capacitor

Example

ECKD	1H	103	Z	F
Type	Voltage	Value	Tolerance	Peculiarity

ECEA	50	M	R47	R
Type	Voltage	Peculiarity use	Value	Special use

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
ECEA : Electrolytic ECCD : Ceramic ECKD : Ceramic ECQM : Polyester ECFT : Semiconductor ECET : Electrolytic	0J : 6.3V 1C : 16V 1E : 25V 1H : 50V 42 : 42V	1H : 50V DC	J : ±5% K : ±10% Z : +80%, −20% P : +100%, −0%

● RESISTORS

Ref. No.	Part No.	Value
R201, 202	ERDS2TJ391	390
R203, 204	ERDS2TJ224	220K
R205, 206	ERDS2TJ563	56K
R207, 208	ERDS2TJ271	270
R209, 210	ERDS2TJ184	180K
R211, 212	ERDS2TJ123	12K
R213, 214	ERDS2TJ563	56K
R215, 216	ERDS2TJ102	1K
R301, 302	ERDS2TJ562	5.6K
R303, 304	ERDS2TJ223	22K

Ref. No.	Part No.	Value
R305, 306	ERDS2TJ392	3.9K
R307, 308	ERDS2TJ182	1.8K
R309, 310	ERDS2TJ821	820
R311, 312	ERDS2TJ474	470K
R313, 314	ERDS2TJ563	56K
R315, 316	ERDS2TJ474	470K
R401, 402	ERDS2TJ332	3.3K
R403, 404	ERDS2TJ563	56K
R405, 406	ERDS2TJ272	2.7K
R407, 408	ERDS2TJ563	56K

Ref. No.	Part No.	Value
R409, 410	ERDS2TJ332	3.3K
R411, 412	ERDS2TJ332	3.3K
R413, 414 Ⓢ ⚠	ERD25FJ100	10
R415, 416 ⚠	ERDS1FJ151	150
R417, 418 ⚠	ERDS1FJ181	180
R419, 420	ERDS2TJ334	330K
R425 Ⓢ ⚠	ERD25FJ271	270
R501, 502 Ⓢ	ERX1ANJR22	0.22
R503	ERDS2TJ820	82
R504	ERDS2TJ393	39K

Ref. No.	Part No.	Value
R505	ERDS2TJ153	15K
R601, 602 ⚠	ERDS1FJ561	560
R603, 604 ⚠	ERDS1FJ561	560
R605, 606	ERDS2TJ820	82
R607, 608 ⚠	ERDS1FJ472	4.7K
R701, 702	ERDS2TJ103	10K
R703, 704	ERDS2TJ103	10K
R705 Ⓢ ⚠	ERD25FJ471	470

● CAPACITORS

Ref. No.	Part No.	Value
C1	ECKDKC103PF2	0.01
C114 Ⓢ	ECKD1H103ZF	0.01
C120	ECEA0JU330	33
C201, 202	ECEA1EU4R7	4.7
C203, 204 Ⓢ	ECCD1H101K	100P
C205, 206 Ⓢ	ECKD1H102KB	0.001
C207, 208	ECEA0JU330	33
C209, 210	ECFTD223KXL	0.022
C211, 212	ECFTD682KXL	0.0068
C213, 214 ⚠	ECEA1HN010S	1
C301, 302	ECFTD563KXL	0.056
C303, 304	ECFTD123KXL	0.012

Ref. No.	Part No.	Value
C305, 306	ECFTD683KXL	0.068
C307, 308	ECFTD472KXL	0.0047
C309, 310	ECFTD223KXL	0.022
C311, 312 Ⓢ	ECCD1H560K	56P
C313, 314	ECEA1CU100	10
C315, 316 Ⓢ	ECKD1H331KB	330P
C317, 318	ECEA1HU4R7	4.7
C319, 320 Ⓢ	ECCD1H101K	100P
C401, 402	ECEA1EU4R7	4.7
C403, 404 Ⓢ	ECKD1H331KB	330P
C405, 406 Ⓢ	ECKD1H561KB	560P
C407, 408 Ⓢ	ECCD1H080CC	8P

Ref. No.	Part No.	Value
C409, 410	ECEA1HU4R7	4.7
C411, 412 Ⓢ	ECKD1H223ZF	0.022
C413	ECEA1HU470	47
C416, 417	ECEA1CU330	33
C501	ECEA0JU470	47
C502	ECEA1EU4R7	4.7
C503	ECEA0JU470	47
C601, 602 Ⓢ [EF] only	ECQM1H823JZ	0.082
C601, 602 Ⓢ other	ECKD1H223ZF	0.022

Ref. No.	Part No.	Value
C603, 604	ECETS42V472X	4700
C607	ECEA1CU471	470
C608	ECEA1CU100	10
C610 Ⓢ	ECKD1H103ZF	0.01
C701, 702	ECEA1CKS100	10
C703, 704 Ⓢ	ECKD1H472MD	0.0047
C705	ECEA1CU471	470

■ REPLACEMENT PARTS LIST

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Ⓚ —marked parts are used for black only, while ○ —marked parts are for silver type only.
4. Part other than Ⓚ — and ○ —marked are used for both black and silver type.
5. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
6. The " Ⓢ " mark is service standard parts and may differ from production parts.
7. The parenthesized numbers in the column of description stand for the quantity per set.

Areas	
[E] ·····	Switzerland and Scandinavia
[EK] ····	United Kingdom
[EF] ····	France
[EH] ····	Holland
[EB] ····	Belgium
[Ei] ·····	Italy
[XL] ····	Australia
[XA] ····	Asia, Latin America, Africa, Middle Near East and Oceania

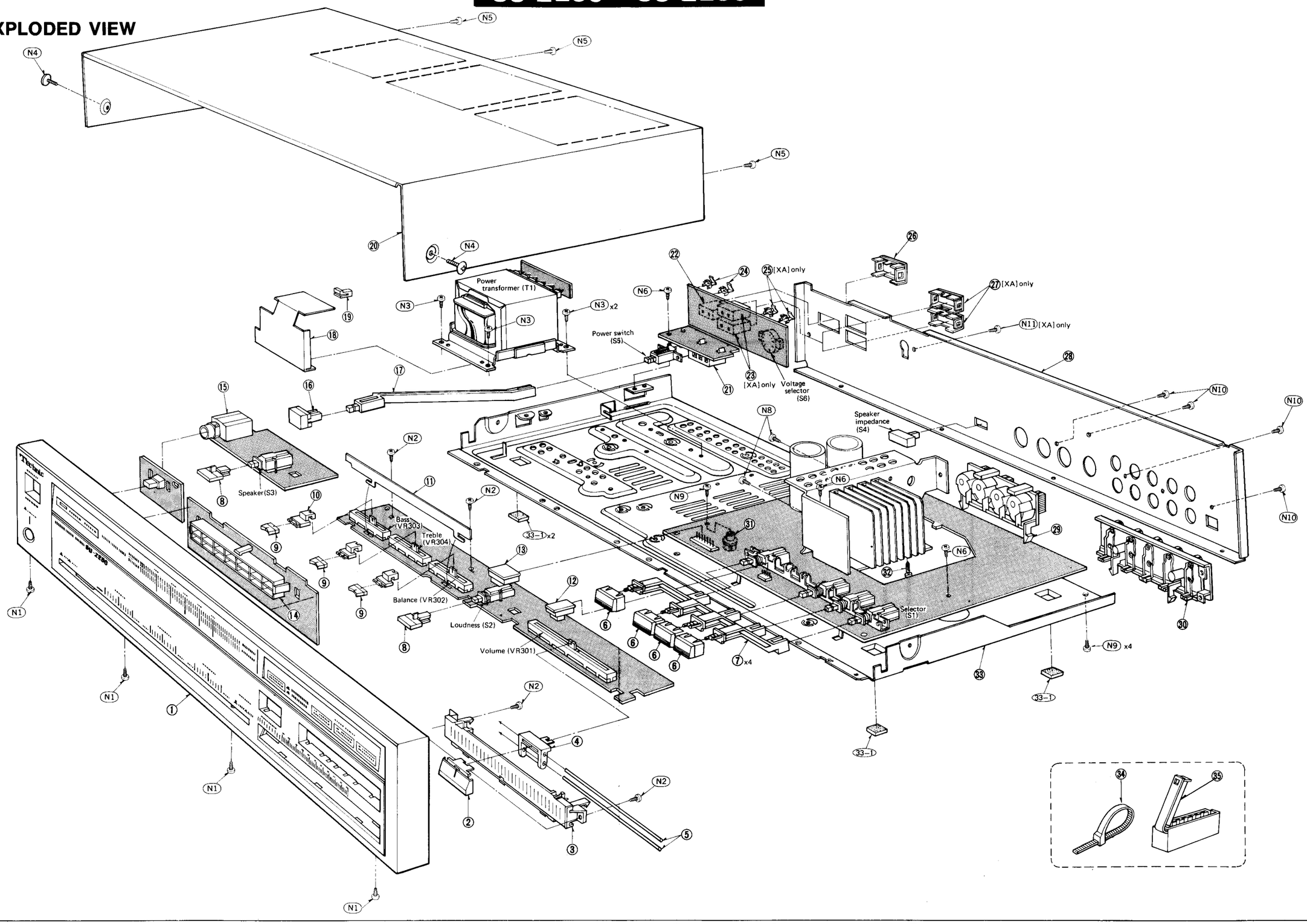
Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC201, 301	M5218P	Equalizer
IC401	SVIK4152−2M	Power Amp.
IC501	AN7072N	Muting and Protection
IC701, 702	SVIBA6144	L.E.D Drive
DIODES		
D501, 502	MA165	Switching
D503	MA167	Switching
D601~604 ⚠	SVDS2V20	Rectifier
D605, 606	MA4150M	Zener, 15V
D607 Ⓢ ⚠	SVDSR1K2	Rectifier
D701~710	LN463YCPMS	L.E.D (Power Level Meter)
D711	LN846RP	L.E.D (Power Indicator)
TRANSFORMERS		
T1 [XA] only ⚠	SLT5M430−W	Power Source
T1 ⚠ [EK, XL] only	SLT5M429−W	Power Source
T1 other ⚠	SLT5M428−W	Power Source
VARIABLE RESISTORS		
VR301	EWAQA8X05B54	Volume, 50kΩ (B)
VR302	EWANF5X05G15	Balance, 100kΩ (G)
VR303, 304	EWANA6X05C15	Tone Control, 100kΩ (C)
FUSES		
F1 ⚠	XBA2C08TR0	250V, T800mA
F2 [XA] only ⚠	XBA2C16TR0	250V, T1.6A
SWITCHES		
S1	SSH488	Input Selector
S2	SSH1159	Loudness
S3	SSH1193	Speaker
S4	SSS164	Speaker Impedance
S5 ⚠	SSH1071	Power Source
S6 [XA] only ⚠	ESE37263	Voltage Selector

Ref. No.	Part No.	Description	
CABINET and CHASSIS PARTS			
1 ○	SGYUZ250−SE	Front Panel (Silver Type)	(1)
1 Ⓚ	SGYUZ250−KE	Front Panel (Black Type)	(1)
2	SXE1108	Knob Ass'y, Volume	(1)
3 ○	SGXUZ150−SE	Ornament, Volume (Silver Type)	(1)
3 Ⓚ	SGXUZ150−KE	Ornament, Volume (Black Type)	(1)
4	SHR9765	Slider, Volume Knob	(1)
5	SUH609	Shaft, Slider	(2)
6	SBC722	Button, Selector Switch	(4)
7	SUB228	Connection Rod, Selector Switch	(4)
8	SBC723	Button, Loudness, Speaker	(2)
9	SBD97	Knob, Balance, Tone Control	(3)

Ref. No.	Part No.	Description	
CABINET and CHASSIS PARTS			
10 ○	SHR9764	Slider (Silver Type)	(3)
10 Ⓚ	SHR9764−1	Slider (Black Type)	(3)
11 ○	SHR5299	Cover (Silver Type)	(1)
11 Ⓚ	SHR5299−1	Cover (Black Type)	(1)
12	SJS304	Connector (3 Pin)	(1)
13	SJS701	Connector (7 Pin)	(1)
14	SMP391	Case L.E.D	(1)
15	SJJ126B	Jack, Headphone	(1)
16	SBC666	Button, Power Switch	(1)
17	SUB227	Connection Rod, Power Switch	(1)
18	SMC1195	Shield Plate	(1)
19	SHG1636	Rubber	(1)
20 ○ [EK] only	SKCUZ150−SK	Cabinet (Silver Type)	(1)
20 ○ [XA] only	SKCUZ150−SX	Cabinet (Silver Type)	(1)
20 ○ other	SKC1550S2	Cabinet (Silver Type)	(1)
20 Ⓚ [EK] only	SKCUZ150−KK	Cabinet (Black Type)	(1)
20 Ⓚ [XA] only	SKCUZ150−KX	Cabinet (Black Type)	(1)
20 Ⓚ other	SKC1550BB2	Cabinet (Black Type)	(1)
21 [XA] only	SJS702	Socket (7 Pin)	(1)
21 other	SJS305	Socket (3 Pin)	(1)
22 ⚠ [XL] only	SJS9234B	Socket, AC Inlet	(1)
22 ⚠ other	SJS9231B	Socket, AC Inlet	(1)
23 ⚠ [XA] only	SJS9232B	Socket, AC Outlet	(2)
24 ⚠	SJT388	Fuse Holder	(2)
25 ⚠ [XA] only	SJT388	Fuse Holder	(2)
26 [XA] only	SJS9234A	Socket Cover, AC Inlet	(1)
26 other	SJS9231A	Socket Cover, AC Inlet	(1)
27 [XA] only	SJS9232A	Socket Cover, AC Outlet	(2)
28 [E] only	SGP6460−1A	Rear Panel	(1)
28 [EK] only	SGP6460−1C	Rear Panel	(1)
28 [XA] only	SGP6460−4A	Rear Panel	(1)
28 [XL] only	SGP6460−1D	Rear Panel	(1)
28 other	SGPUZ250−SF	Rear Panel	(1)
29	SJF4437−2	Terminal Board, Speaker	(1)
30	SJF3062−1N	Terminal Board	(1)
31	SHE185	Spacer, P.C.B.	(1)
32	SHR401−1	Lock Pin	(1)
33	SKUUZ150−SE	Bottom Board	(1)
33-1	SKL293	Foot	(4)
34	SHR301	Clamper	(1)
35	SJS5421	Connector	(1)
35	SJS5519	Connector	(1)

Ref. No.	Part No.	Description	
SCREWS			
N1	XTB3+8GFZ	Tapping, ⊕3×8	(4)
N2	XTB3+8G	Tapping, ⊕3×8	(4)
N3	XTB3+6J	Tapping, ⊕3×6	(4)
N4 ○	SNE2095−4	Cabinet (Silver Type)	(2)
N4 Ⓚ	SNE2095−5	Cabinet (Black Type)	(2)
N5	XTBS3+8BFZ1	Tapping with Detent	(3)
N6	XTW3+8L	Tapping, ⊕3×8	(3)
N7	XTW3+15T	Tapping, ⊕3×15	(1)
N8	XTB3+14J	Tapping, ⊕3×14	(2)
N9	XTBS3+6BFZ1	Tapping with Detent, ⊕3×6	(4)
N10	XTBS3+8JFZ1	Tapping with Detent, ⊕3×8	(4)
N11 [XA] only	SNE2095−5	Voltage Selector	(1)
ACCESSORIES			
A1 ⚠ [EK] only	SFDAC05G02	AC Cord	(1)
A1 ⚠ [XA] only	SJA168	AC Cord	(1)
A1 ⚠ [XL] only	SJA173	AC Cord	(1)
A1 ⚠ other	SJA171	AC Cord	(1)
A2 ⚠ [XA] only	SJP9215	Plug Adaptor	(1)
A3 [EK] only	SQF12299	Instruction Book	(1)
A3 [XA] only	SQF12302	Instruction Book	(1)
A3 other	SQF12297	Instruction Book	(1)
PACKING PARTS			
P1 ○	SPP699	Polyethylene Bag (Silver Type)	(1)
P1 Ⓚ	SPP735	Polyethylene Bag (Black Type)	(1)
P2	SPS4089−1	Pad, Left Side	(1)
P3	SPS4091−2	Pad, Right Side	(1)
P4	SPS4141	Pad, Upper	(1)
P5 [EF] only	SPG5182	Carton Box	(1)
P5 ○ [EK] only	SPG5181	Carton Box (Silver Type)	(1)
P5 ○ other	SPG5180	Carton Box (Silver Type)	(1)
P5 Ⓚ [EK] only	SPG5184	Carton Box (Black Type)	(1)
P5 Ⓚ other	SPG5183	Carton Box (Black Type)	(1)
P6 ○ [EF] only	SGK1411	Label (Silver Type Only)	(2)

■ EXPLODED VIEW



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ORDER NO. HAD85012401C8–A

Stereo Integrated Amplifier SU-Z250

- This booklet includes the specifications of Model SU-Z250 (Order No. HAD85012401C8) written in German, French and Spanish.
- File this booklet together with the service manual of Model SU-Z250.

- Dieses Büchlein umfaßt die technischen Daten von Modell SU-Z250 (Bestell-Nr. HAD85012401C8) in den Sprachen Deutsch, Französisch und Spanisch.
- Bewahren Sie dieses Büchlein zusammen mit dem Service-Handbuch von Modell SU-Z250 auf.

- Cette brochure comprend les spécifications du Modèle SU-Z250 (N° d'Ordre HAD85012401C8) écrites en français, en allemand et en espagnol.
- Classer cette brochure en même temps qu'avec le manuel de service du Modèle SU-Z250.

- Este librito incluye las especificaciones de Modelo SU-Z250 (Pedido Nº HAD85012401C8) escritas en alemán, francés y español.
- Guardar este librito juntamente con el manual de servicio de Modelo SU-Z250.

DEUTSCH

■ TECHNISCHE DATEN

(DIN 45 500)

■ VERSTÄRKERTEIL

Dauerton-Ausgangsleistung bei 40 Hz ~ 20 kHz
beide Kanäle ausgesteuert 2 × 30W (8 Ω)
Dauerton-Ausgangsleistung bei 1 kHz
beide Kanäle ausgesteuert 2 × 40W (8 Ω)
Gesamtklirrfaktor
Nennleistung bei 40 Hz ~ 20 kHz 0,05% (8 Ω)
halbe Nennleistung bei 1 kHz 0,02% (8 Ω)
Intermodulationsfaktor
Nennleistung bei 60 Hz: 7 kHz = 4:1, nach SMPTE, 8 Ω 0,05%
Leistungsbandbreite
beide Kanäle ausgesteuert bei −3 dB 10 Hz ~ 25 kHz (8 Ω)
Dämpfungsfaktor 40 (8 Ω)
Eingangsempfindlichkeit und -impedanz
Phono 2,5 mV/47 kΩ
Tuner, CD/Aux 150 mV/22 kΩ
Tape/EXT 150 mV/22 kΩ
Maximale TA-Eingangsspannung (1 kHz, eff.) 150 mV
Geräuschspannungsabstand
Nennleistung (8 Ω)
Phono 72 dB (nach IHF, A: 72 dB)
Tuner, CD/Aux, Tape/EXT 86 dB (nach IHF, A: 95 dB)
Frequenzgang
Phono RIAA-Standardkurve, ±0,8 dB (30 Hz ~ 15 kHz)
Tuner, CD/Aux, Tape/EXT 5 Hz ~ 80 kHz (−3 dB)
Klangregler
Baßregler (BASS) 50 Hz, +10 dB ~ −10 dB
Höhenregler (TREBLE) 20 kHz, +10 dB ~ −10 dB
Gehörrichtige Lautstärkekorrektur (Loudness)
(bei −30 dB Ausgangsleistung) 50 Hz, +9 dB
Ausgangsspannung und -impedanz
Aufnahmeausgang (REC OUT) 150 mV
Kanalabweichung (CD/Aux, 250 Hz ~ 6300 Hz) ±1 dB
Übersprechdämpfung (CD/Aux, 1 kHz) 55 dB
Kopfhörerpegel und -impedanz 470 mV/330 Ω
Lautsprecherimpedanz 4 Ω ~ 16 Ω

■ ALLGEMEINE DATEN

Leistungsaufnahme 190 W
Netzspannung
Für Kontinentaleuropa Wechselstrom 50 Hz/60 Hz, 220V
Für andere Länder Wechselstrom 50 Hz/60 Hz, 110V/127V/220V/240V
Abmessungen (B×H×T) 430 × 96 × 240 mm
Gewicht 4,3 kg

Bemerkung:
Der Gesamtklirrfaktor wurde mit einem digitalen Rauschspektrometer (Anlage H.P. 3045) gemessen.

(Die technischen Daten können infolge von Verbesserungen ohne Ankündigung geändert werden.)

FRANÇAIS

■ CARACTERISTIQUES

(DIN 45 500)

■ SECTION AMPLIFICATEUR

Puissance de sortie continue de 40 Hz~20 kHz, les deux canaux en circuit	2 × 30W (8Ω)
Puissance de sortie continue à 1 kHz les deux canaux en circuit	2 × 40W (8Ω)
Distorsion harmonique totale à puissance nominale (40 Hz~20 kHz)	0,05% (8Ω)
à demi-puissance (1 kHz)	0,02% (8Ω)
Distorsion d'intermodulation à puissance nominale à 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0,05%
Réponse de fréquences les deux canaux en circuit, −3 dB	10 Hz~25 kHz (8Ω)
Coefficient d'amortissement	40 (8Ω)
Sensibilité et impédance d'entrée	
PHONO	2,5 mV/47kΩ
SYNTONISATEUR, AUX (TUNER, CD/AUX)	150 mV/22kΩ
BANDE (TAPE/EXT)	150 mV/22kΩ
PHONO (tension d'entrée maximum, 1 kHz RMS)	150 mV
Signal/Bruit	
à puissance nominale (8Ω)	
PHONO	72 dB (IHF, A: 72 dB)
SYNTONISATEUR, AUX, BANDE (TUNER, CD/AUX, TAPE/EXT)	86 dB (IHF, A: 95 dB)
Réponse de fréquence	
PHONO	Courbe nominale RIAA ±0,8 dB (30 Hz~15 kHz)
SYNTONISATEUR, AUX, BANDE (TUNER, CD/AUX, TAPE/EXT)	5 Hz~80 kHz (−3 dB)
Réglage de la tonalité	
BASSES (BASS)	50 Hz, +10 dB~ −10 dB
AIGUS (TREBLE)	20 kHz, +10 dB~ −10 dB
Compensateur physiologique (volume à −30 dB)	50 Hz, +9 dB
Tension de sortie et impédance	
SORTIE ENREGISTREMENT (REC OUT)	150 mV
Equilibrage des canaux, CD/AUX 250 Hz~6 300 Hz	±1 dB
Séparation des canaux, CD/AUX 1 kHz	55 dB
Niveau de sortie des casques et impédance	470 mV/330Ω
Impédance de charge	4Ω~16Ω

■ DIVERS

Consommation	190W
Alimentation	
Pour l'Europe	CA 50 Hz/60 Hz, 220V
Autres	CA 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensions (L×H×Pr)	430 × 86 × 240 mm
Poids	4,3 kg

Remarques:

1. On mesure la distorsion harmonique totale au moyen d'un analyseur de spectre digital (Système H.P. 3045).
2. La Société NATIONAL-PANASONIC-FRANCE, importateur du matériel MATSUSHITA-ELECTRIC déclare que cet appareil est conforme aux prescriptions de la directive 76/889/C.E.E. (arrêté 14 Janvier 1980)

(Sujet á changement sans prearis.)

ESPAÑOL

■ ESPECIFICACIONES

(DIN 45 500)

■ SECCION AMPLIFICADOR

Potencia continua de 40 Hz~20 kHz en ambos canales	2 × 30W (8Ω)
Potencia continua de 1 kHz en ambos canales	2 × 40W (8Ω)
Distorsión armónica total	
potencia de régimen a 40 Hz~20 kHz	0,05% (8Ω)
mitad de potencia a 1 kHz	0,02% (8Ω)
Distorsión por intermodulación potencia de régimen a 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0,05%
Ancho de banda de potencia con ambos canales, −3 dB	10 Hz~25 kHz (8Ω)
Factor de amortiguamiento	40 (8Ω)
Sensibilidad e impedancia de entrada	
TOCADISC. (PHONO)	2,5 mV/47kΩ
SINTON., CD/AUX. (TUNER, CD/AUX)	150 mV/22kΩ
GRAB. (TAPE/EXT)	150 mV/22kΩ
Voltaje máximo de entrada de PHONO (1 kHz, RMS)	150 mV
Relación de señal a ruido	
potencia de régimen (8Ω)	
TOCADISC. (PHONO)	72 dB (IHF, A: 72 dB)
SINTON., AUX., GRAB. (TUNER, CD/AUX, TAPE/EXT)	86 dB (IHF, A: 95 dB)
Respuesta de frecuencia	
TOCADISC. (PHONO)	curva RIAA estándar ±0,8 dB (30 Hz~15 kHz)
SINTON., AUX., GRAB. (TUNER, CD/AUX, TAPE/EXT)	5 Hz~80 kHz (−3 dB)
Controles de tono	
BAJOS (BASS)	50 Hz, +10 dB~ −10 dB
AGUDOS (TREBLE)	20 kHz, +10 dB~ −10 dB
Control de sonoridad (volumen a −30 dB)	50 Hz, +9 dB
Voltaje e impedancia de salida	
SAL. GRAB. (REC OUT)	150 mV
Equilibrio de canales, CD/AUX 250 Hz~6 300 Hz	±1 dB
Separación de canales, CD/AUX 1 kHz	55 dB
Impedancia y nivel de salida de los auriculares	470 mV/330Ω
Impedancia de carga	4Ω~16Ω

■ GENERAL

Consumo de energía	190W
Alimentación de energía	
Para Europa continental	CA 50 Hz/60 Hz, 220V
Para otros paises	CA 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensiones (An.×Al.×Prof.)	430 × 86 × 240 mm
Peso	4,3 kg

Nota:
La distorsión armónica total se mide con el analizador de espectro digital (sistema H.P. 3045).

(Estas especificaciones están sujetas a cualquier cambio sin previo eviso.)

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